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TRANSMITTAL LETTER REGARDING FINAL TECHNICAL MEMORANDUM ECOLOGICAL
MEDIA CLEANUP GOAL SOLID WASTE MANAGEMENT UNIT 16 (SWMU 16) SURFACE
SOIL AND RESPONSE TO U S NAVY COMMENTS NSA CRANE IN
10/25/2013
TETRA TECH



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PITT-10-13-058

October 25, 2013

Project No. 112G03539

Mr. Howard Hickey
NAVFAC MW
201 Decatur Ave
Building 1A, Code EV
Great Lakes, Illinois 60088

Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order No. F27Q

Subject: Final Technical Memorandum Ecological Media Cleanup Goal for SWMU 16
Surface Soil, NSA Crane and Tetra Tech Responses to Navy Comments

Dear Mr. Hickey:

Enclosed is one copy of the Final Technical Memorandum Ecological Media Cleanup Goal for SWMU 16 Surface Soil, NSA Crane. The Memorandum was revised on the basis of EPA comments dated December 12, 2012. Attached are responses to EPA's comments on the Draft Final version. EPA has approved the utilization of the Media Cleanup Standards in the SWMU 16 Interim Measures Work Plan. Per instructions from the Navy, the memorandum is being issued as a final document.

Please contact me at (412) 921-8425 (email: James.Goerd@tetrattech.com) or Ralph Basinski (the NSA Crane Activity Coordinator) at (412) 921-8308 (email: Ralph.Basinski@tetrattech.com) regarding any questions or comments.

Sincerely,

James Goerd
Project Manager

JDG/mlg
Enclosure

cc: Mr. Tom Brent, NSWCR Crane (4 copies of letter/attachment, enclosure and CD)
Mr. John Trepanowski, PE, Tetra Tech, Inc. (letter only)
Mr. Ralph Basinski, Tetra Tech, Inc. (letter/attachment, enclosure and CD)
Mr. Aaron Bernhardt, Tetra Tech, Inc. (letter only)
NIRIS Regional Data Base Manager (letter/attachment, full copy of enclosure and CD)
Project File – CTO F27Q (letter/attachment, enclosure and CD)

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**NSA CRANE COMMENTS FROM TOM BRENT DATED JANUARY 4, 2011
SMWU 16 DRAFT TOXICITY TECHNICAL MEMORANDUM
ECOLOGICAL MEDIA CLEANUP GOALS
NSA CRANE
CRANE, INDIANA**

NSA Crane comments, dated January 4, 2011 are shown in bold font. Tetra Tech responses to each comment are shown in regular font.

Comment TJB1 (Executive Summary, second paragraph, first sentence)

Please reword (PRGs and NOECs are not described above).

Response: The text has been revised as requested.

Comment TJB2 (Section 2.0, first paragraph, third and fourth sentences)

State which samples.

Response: The text has been revised as requested.

Comment TJB3 (Section 2.0; final paragraph):

It would seem that Figure 1 should be replaced with Figure 18-1 from the May 2010 SAP. Most of the sample locations on the figure do not correlate with the sample numbers in this report (e.g., there is no 16SB031 on Tables 1 or 2). It might also be worthwhile to add a column to one of the tables to correlate the (presumably old) samples from the figure with the newly collected samples.

Response: Concur. Figure 1 has been revised to indicate the sample numbers shown in Table 18-1 of the SAP, which correspond to the sample numbers used in the Technical Memorandum.

Comment TJB4 (Section 3.3; first paragraph):

State the number of plants and replicates (similar to the earthworm test description in the last paragraph of §3.1.1 on p.5).

Response: The text has been revised as requested.

Comment TJB5 (Section 3.3.2):

The discussion below appears to focus on red clover. What about the ryegrass study?

Response: The text has been revised to provide more detail and clarity regarding the clover and ryegrass test results. The first paragraph of Section 3.3.2 now focuses on germination, the second paragraph on survival, and the third paragraph on growth.

Comment TJB6 (Section 3.3.2, fifth paragraph):

Is it possible to differentiate between site contaminants versus leaching from native soils due to pH?

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Response: It does not appear that more metals are necessarily leaching from the soil in samples with lower pH. The areas not impacted by site activities appear to have a lower pH value, probable from natural conditions. If anything, the samples with the higher pH would leach more metals than the samples with lower pH, although this is not the case for all metals.

Comment TJB7 (Section 3.3.2, final paragraph):

1. Note that SS104 did not have "low pH". Could it be that this discussion should be for SS114?

Response: The sentence has been revised to clarify that SS104 is the toxic sample with the highest concentrations of antimony and lead.

2. The implication is that pH affects bioavailability of metals. If true, then should a similar discussion be presented for soil invertebrates and invertivorous birds?

Response: Although pH does affect the bioavailability of metals, in this case, I believe that it is the low pH itself that is the source of lower growth in plants. Earthworms appear to be more tolerant to lower pH in soil, which is why none of the samples were identified as being impacted. The actual bioavailability to the earthworms was also measured by conducting the bioaccumulation test. The actual tissue data was then used to develop site-specific bioaccumulation factors which were then used to develop the PRGs for birds. Also, the bioavailability of metals in soil could change once the soil is ingested by the birds and digested in their stomach.

Comment TJB8 (Section 4.0):

Presumably, the next step will be to incorporate the results of this study into the Eco RA portion of the SWMU 16 RFI report?

Response: The Toxicity Technical Memorandum will be incorporated into the Draft SWMU 16 Corrective Measures Study as an appendix. The results of the report will be summarized in Section 2.4.1.2.

Comment TJB9 (Sections 4.1 and 4.2):

Does pH affect bioavailability?

Response: See Response above. In addition, low pH also affects the bioavailability of nutrients and the rate at which plants can absorb nutrients, leading to lower growth. This information was added to the document.